Remarks

In response to the Office Action dated March 12, 2001, Applicants request reconsideration and withdrawal of the rejections set-forth in the Office Action in view of the above amendments and the following remarks.

Specification

Applicants respectfully submit that the term (alk) and (alk') are different and relate to different formula. (alk) (page 1, line 25) relates to formula (1), whereas (alk') (page 3, line 2) relates to formula (2). As such, the Examiner's objection is respectfully traversed.

Applicants have amended the specification on page 9 and page 37 to correct the informalities pointed out by the Examiner.

Claim objections

The Examiner stated in the office action that claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants disagree with the Examiner's assertion. Claim 4 was constructed to further limit A in formula (1) of claim 1 to <u>a polysiloxane segment having formula (2)</u>. As stated above, the term (alk) and (alk') are different and relate respectively to formula (1) and to formula (2). As such, the Examiner's objection is respectfully traversed.
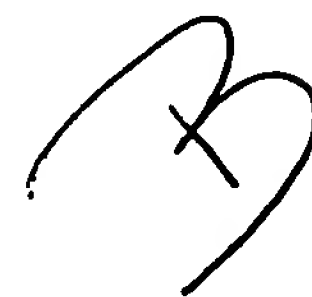
Claims 7 and 10 have been amended to overcome the Examiner's claim objections set forth in the office action.

Claim rejections – 35 U.S.C. § 112

Applicants thank the Examiner for drawing their attention to claims 7 and 9-11. Applicants have amended the claims consistent with the Examiner's rejections. As such, the Examiner's rejections are respectfully traversed.

Claim Rejections – 35 U.S.C. § 102

The Examiner has rejected claims 1-8 and 12 under 35 U.S.C. 102(e) as being anticipated by Meijs (US 5,981,615). Applicants submit that the above amendment to claim 1 establishes novelty over Meijs (US 5,981,615) and the 35 U.S.C. 102(e) rejection has been overcome.

Version with Markings to Show Changes Made

In the claims:

1. (once amended) An amphiphilic block copolymer of formula

$$(Q - L_1)_p \diagdown \atop (B - L_2)_q \diagup A \left[L_3 - (alk) {{\diagup (L_1 - Q)_{p1}} \atop {\diagdown (L_2 - B)_{q1}}} \right]_t \qquad (1),$$
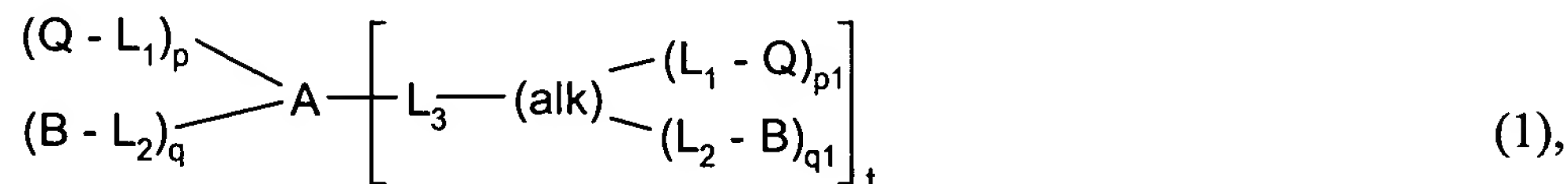
wherein A is a hydrophobic polysiloxane or perfluoroalkyl polyether segment;

B is a surface-modifying hydrophilic segment having a weight average molecular weight of ≥100

that is devoid of a crosslinkable group;

Q is a moiety comprising at least one crosslinkable ethylenically unsaturated group;

(alk) is C_2-C_{20}-alkylene which is unsubstituted or substituted by hydroxy;

L_1, L_2 and L_3 are each independently of the other a linking group;

p1 and q1 are each independently of the other an integer from 1 to 12; and either

t is 0 and p and q are each independently of the other an integer from [1]2 to [25]20; or
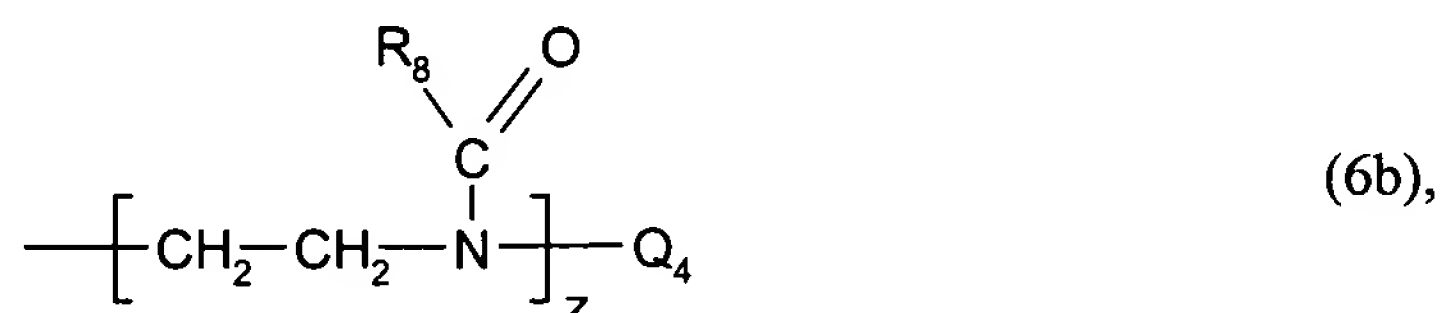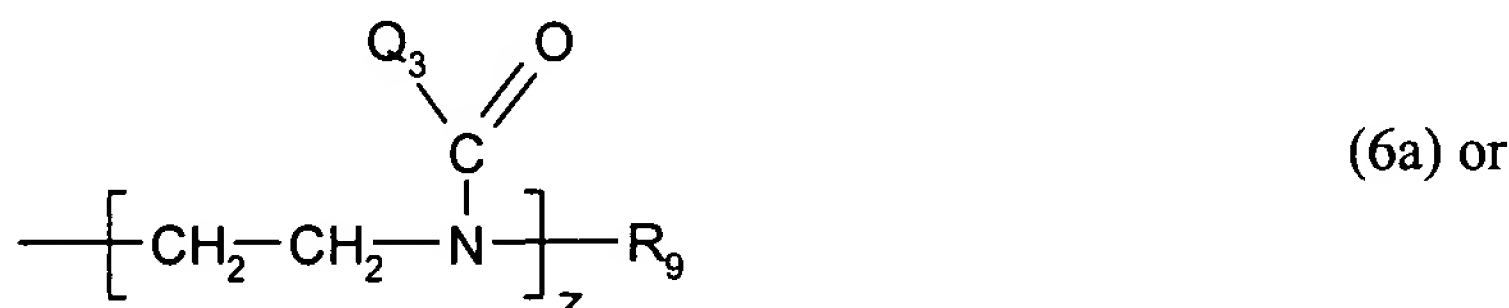
t is an integer from 1 to 8 and p and q are each 0.

7. (once amended) An amphiphilic block copolymer according to claim 1, wherein B is a non-ionic segment selected from the group consisting of a polyoxyalkylene, polysaccharide, polypeptide, poly(vinylpyrrolidone), polyalkylacrylate, polymethacrylate[or –methacrylate], polyhydroxyalkylacrylate, polyhydroxymethacrylate[or –methacrylate], polyacyl alkylene imine, polyacryl amide, polyvinyl alcohol, polyvinyl ether and a polyol, or B is a polyionic segment selected from the group consisting of a polyallylammonium, polyethyleneimine, polyvinylbenzyltrimethylammonium, polyaniline, sulfonated polyaniline, polypyrrole[and polypyridinium segment], polypyrridine, [and a]polyacrylic acid, [and]polymethacrylic acid, a polythiophene-acetic acid, a polystyrenesulfonic acid and a zwitterionic segment, or a [suitable]salt thereof.
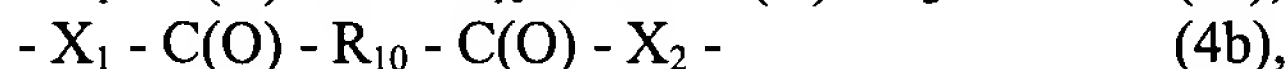
9. (once amended) An amphiphilic block copolymer according to claim 1, wherein Q is a polyoxyalkylene, poly(vinylpyrrolidone), poly(hydroxyethylacrylate), poly(hydroxyethylmeth-acrylate), polyacrylamide, poly(N,N-dimethylacrylamide), polyacrylic acid, polymethacrylic acid,

polyacyl alkylene imine or a copolymeric mixture of two or more of the above-mentioned polymers which in each case comprises one or more ethylenically unsaturated bond and has a weight average molecular weight of[, for example,] ≥ 100.

10. (once amended) An amphiphilic block copolymer according to claim 9, wherein Q is a hydrophilic segment of formula

$$-((alk'')-O)_c-[(CH_2-CH_2-O)_a-(CHR_6-CHR_7-O)_b]-(alk'')-L_1'-Q_2 \qquad (5a)$$

(6a) or

(6b),

wherein L_1' is a bivalent linking group of formula

$$- X_1 - C(O) -NH - R_{10} - NH - C(O) - X_2 - \qquad (4a),$$
$$- X_1 - C(O) - R_{10} - C(O) - X_2 - \qquad (4b),$$
$$- X_1 - C(O) - \qquad (4c),$$
$$- C(O) - X_2 - \qquad (4d), or$$
$$- X_1 - C(O) - X_2 - \qquad (4e),$$

wherein X_1 and X_2 are each independently of the other a group -O-, -S- or $-NR_0-$, R_0 is hydrogen or C_1-C_4-alkyl, and R_{10} is linear or branched C_1-C_{18}-alkylene or unsubstituted or C_1-C_4-alkyl- or C_1-C_4-alkoxy-substituted C_6-C_{10}-arylene, C_7-C_{18}-aralkylene, C_6-C_{10}-arylene-C_1-C_2-alkylene-C_6-C_{10}-arylene, C_3-C_8-cycloalkylene, C_3-C_8-cycloalkylene-C_1-C_6-alkylene, C_3-C_8-cycloalkylene-C_1-C_2-alkylene-C_3-C_8-cycloalkylene or C_1-C_6-alkylene-C_3-C_8-cycloalkylene-C_1-C_6-alkylene,

Q_2 is a radical of formula
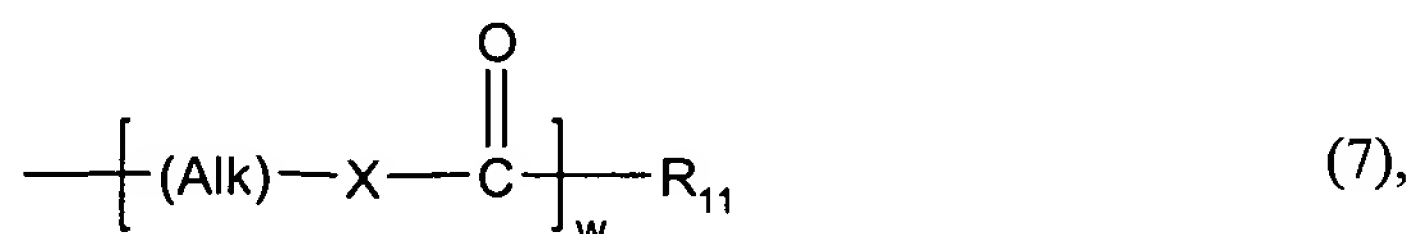
(7),

wherein (Alk) is linear or branched C_1-C_{12}-alkylene, X is -O- or -NH-, R_{11} is an olefinically unsaturated copolymerisable radical having from 2 to 24 carbon atoms which is unsubstituted or further substituted by C_1-C_4alkoxy, halogen, phenyl or carboxy, and w is the number 0 or 1,

Q_3 is C_3-C_{12}-alkenyl or a radical $-(CH_2)_{1-4}-O-R_{16}$ wherein R_{16} is acryloyl, methacryloyl or a group $-C(O)-NH-(CH_2)_{2-4}-O-C(O)-C(R_{17})=CH_2$ and R_{17} is hydrogen or methyl,

8

Q_4 is a radical of formula

$$—R_{18}—\left[X_3—\underset{O}{\overset{\parallel}{C}}\right]_e—\underset{H[,]\,(or\,CH_3)}{\overset{}{C}}=CH_2 \qquad (9a),$$

$$—R_{18}—X_4—(Alk')—X_3—\underset{O}{\overset{\parallel}{C}}—\underset{H[,]\,(or\,CH_3)}{\overset{}{C}}=CH_2 \qquad (9b),$$

$$—R_{18}—\underset{O}{\overset{\parallel}{C}}—X_3—\underset{H[,]\,(or\,CH_3)}{\overset{}{C}}=CH_2 \qquad (9c),\,or$$

$$—\underset{O}{\overset{\parallel}{C}}—\underset{H[,]\,(or\,CH_3)}{\overset{}{C}}=CH_2 \qquad (9d),$$
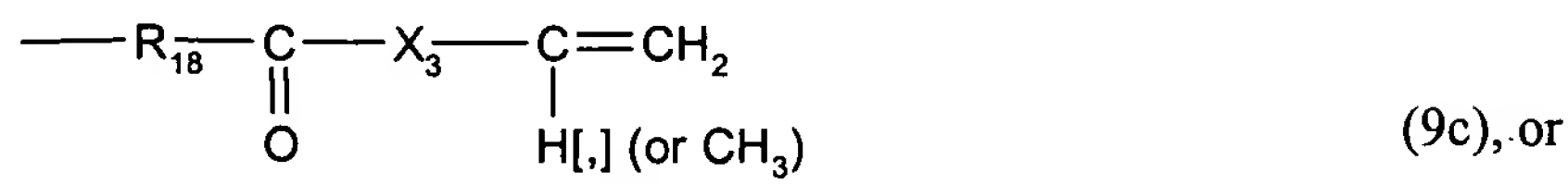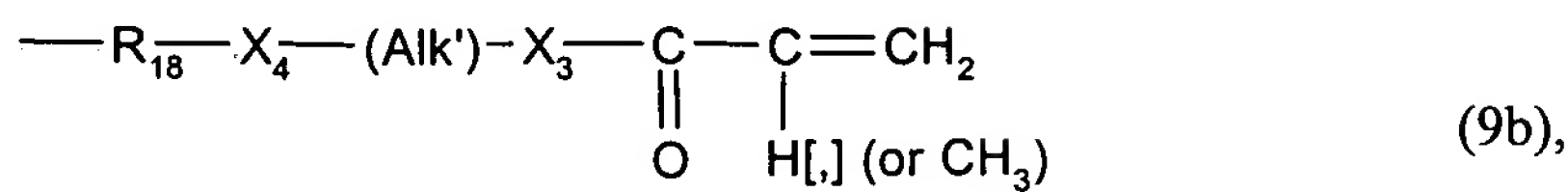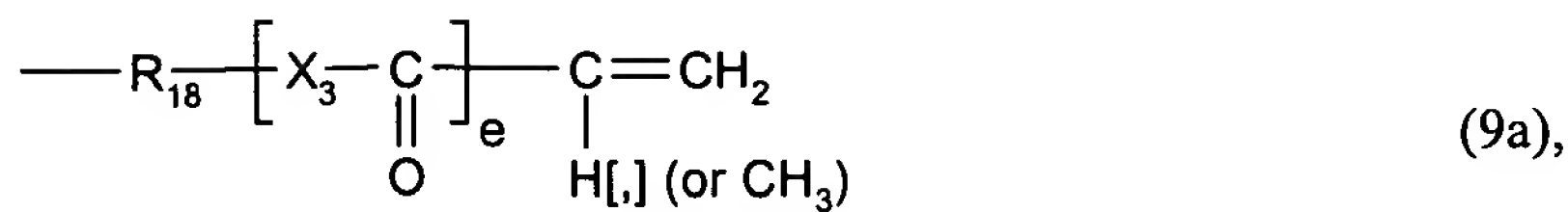
wherein X_3 is -O- or [–NR]–NR–, R is hydrogen or C_1-C_4-alkyl, X_4 is a group -C(O)-O-,

-O-C(O)-NH- or -NH-C(O)-O-, (Alk') is C_1-C_8-alkylene, e is an integer of 0 or 1, and R_{18} is C_1-C_{12}-

alkylene, phenylene or C_7-C_{12}-phenylenealkylene,

one of the radicals R_6 and R_7 is hydrogen and the other is methyl,
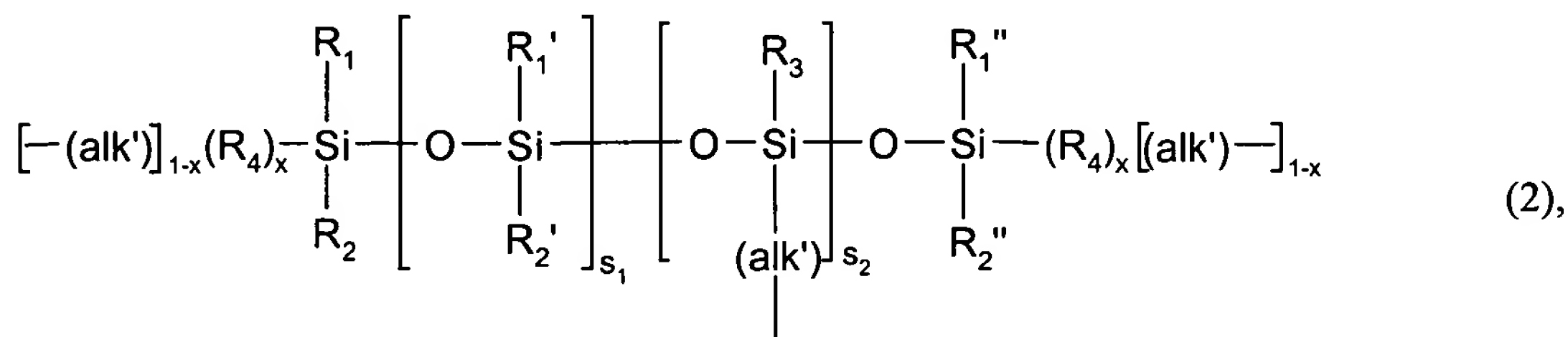
(alk") is C_1-C_6-alkylene, c is the number 0 or 1, and each of a and b independently of the other is a

number from 0 to 100, the sum of (a+b) being from 2 to 100,

R_8 is hydrogen; C_1-C_{12}-alkyl unsubstituted or substituted by hydroxy or fluoro and/or uninterrupted

or interrupted by oxygen; C_5-C_8-cycloalkyl; phenyl; or benzyl,

R_9 is C_1-C_{12}-alkyl, benzyl, C_2-C_4-alkanoyl, benzoyl or phenyl, and

z is an integer from 2 to 150.

11. (once amended) An amphiphilic block copolymer according to claim 2 of formula (1a), wherein
A is a polysiloxane segment of formula

$$[—(alk')]_{1-x}(R_4)_x—\underset{R_2}{\overset{R_1}{\underset{|}{\overset{|}{Si}}}}—\left[O—\underset{R_2'}{\overset{R_1'}{\underset{|}{\overset{|}{Si}}}}—\right]_{s_1}\left[O—\underset{(alk')}{\overset{R_3}{\underset{|}{\overset{|}{Si}}}}—\right]_{s_2}O—\underset{R_2''}{\overset{R_1''}{\underset{|}{\overset{|}{Si}}}}—(R_4)_x[(alk')—]_{1-x} \qquad (2),$$

wherein x and s_2 are each 0, and R_1, R_1', R_1'', R_2, R_2', R_2'', R_3 and R_4 are each independently of one
another C_1-C_4-alkyl, B is a polyoxyalkylene, poly(vinylpyrrolidone), poly(hydroxyethylacrylate),

poly(hydroxyethylmethacrylate), polyacrylamide, poly(N,N-dimethylacrylamide), polyacrylic acid, polymethacrylic acid, polyacyl alkylene imine or a copolymeric mixture of two or more of the above-mentioned polymers,

L_1 is a linking group of formula

$$- X_1 - C(O) -NH - R_{10} - NH - C(O) - X_2 - \qquad (4a),$$
$$- X_1 - C(O) - \qquad (4c),\ or$$
$$- X_1 - C(O) - X_2 - \qquad (4e),$$
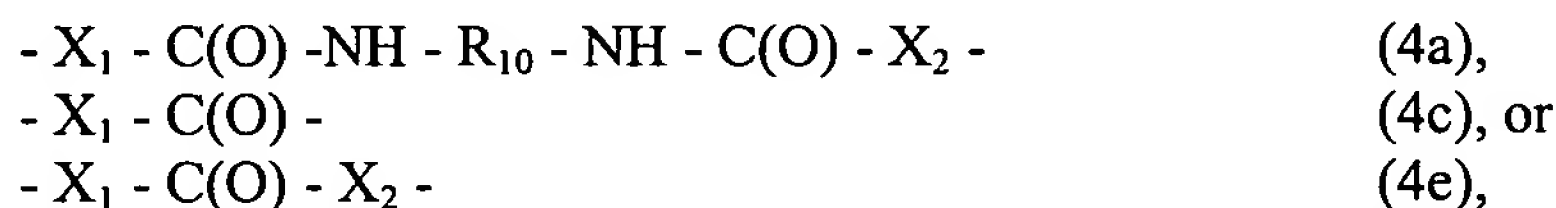
L_2 is a linking group of the above formula (4a), and L_3 is a linking group of the above formula (4c) or of the formula

$$- X_1 - C(O) - R_{10} - C(O) - X_2 - \qquad (4b),$$

wherein X_1 and X_2 are each independently of the other a group -O-, -S- or $-NR_0$-, R_0 is hydrogen or C_1-C_4-alkyl, and R_{10} is linear or branched C_1-C_{18}-alkylene or unsubstituted or C_1-C_4-alkyl- or C_1-C_4-alkoxy-substituted C_6-C_{10}-arylene, C_7-C_{18}-aralkylene, C_6-C_{10}-arylene-C_1-C_2-alkylene-C_6-C_{10}-arylene, C_3-C_8-cycloalkylene, C_3-C_8-cycloalkylene-C_1-C_6-alkylene, C_3-C_8-cycloalkylene-C_1-C_2-alkylene-C_3-C_8-cycloalkylene or C_1-C_6-alkylene-C_3-C_8-cycloalkylene-C_1-C_6-alkylene,

Q is a radical Q_1 of formula
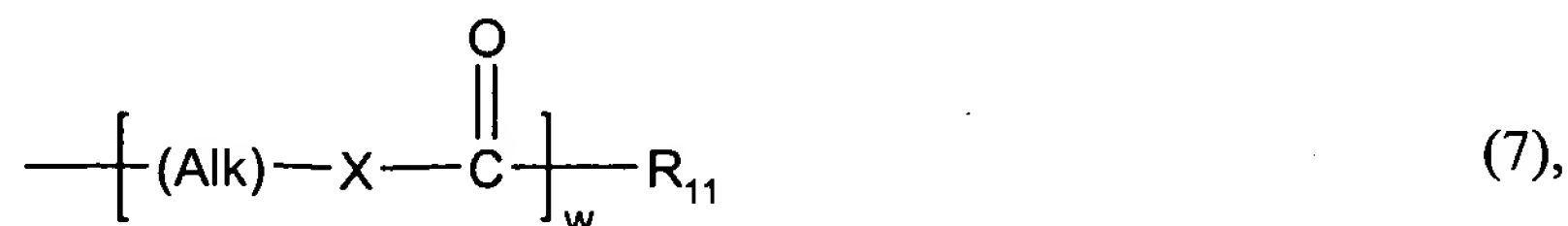
$$-\left[(Alk)-X-\overset{\overset{\displaystyle O}{\|}}{C}\right]_w -R_{11} \qquad (7),$$

wherein (Alk) is linear or branched C_1-C_{12}-alkylene, X is -O- or -NH-, R_{11} is an olefinically unsaturated copolymerisable radical having from 2 to 24 carbon atoms which is unsubstituted or further substituted by C_1-C_4alkoxy, halogen, phenyl or carboxy, and w is the number 0 or 1, or Q is a polyoxyalkylene, poly(vinylpyrrolidone), poly(hydroxyethylacrylate), poly(hydroxyethylmeth-acrylate), polyacrylamide, poly(N,N-dimethylacrylamide), polyacrylic acid, polymethacrylic acid, polyacyl alkylene imine or a copolymeric mixture of two or more of the above-mentioned polymers which in each case comprises one or more ethylenically unsaturated bond and has a weight average molecular weight of[, for example,] ≥ 100, and p1 is an integer from 1 to 6, and q1 is an integer from 1 to 8.

**In the specification:**

The paragraph bridging pages 8 and 9

(once amended) Suitable hydrophilic segments B are for example:

(i) non-ionic segments, for example a polyoxyalkylene, polysaccharid, polypeptide, poly(vinylpyrrolidone), polyhydroxyalkylacrylate or -methacrylate, polyacyl alkylene imine, polyacryl amide, polyvinyl alcohol, polyvinyl ether or polyol;

(ii) polyionic segments, for example a polycationic segment such as a polyallylammonium, polyethyleneimine, polyvinylbenzyltrimethylammonium, polyaniline, sulfonated polyaniline, polypyrrole or polypyridinium segment, or a polyanionic segment such as a polyacrylic or polymethacrylic acid, a polythiophene-acetic acid, a polystyrenesulfonic acid, or a zwitterionic segment. Polyionic segments in each case emcompass the free amine, imine or acid or a [suitable]salt thereof.

Formula (17a)

(once amended)
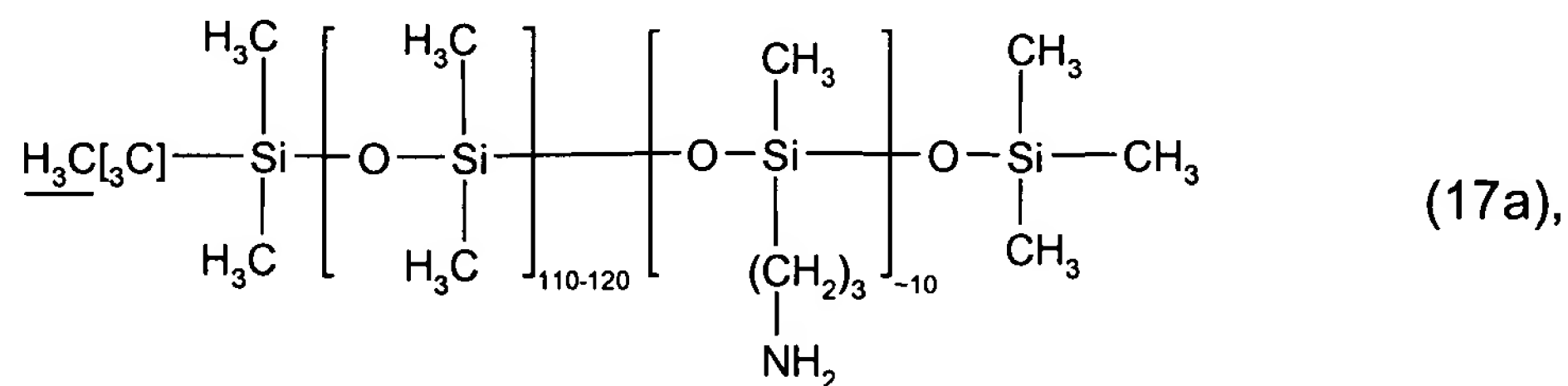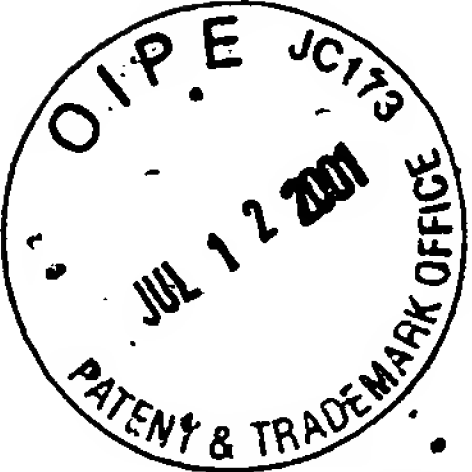
(17a),

Applicants request reconsideration and withdrawal of the rejections set-forth in the Office Action and allowance of claims 1-12. Should the Examiner believe that a discussion with Applicants' representative would further the prosecution of this application, the Examiner is respectfully invited to contact the undersigned.

Please address all correspondence to Thomas Hoxie, Novartis Corporation, Patent & Trademark Department, 564 Morris Ave., Summit, NJ 0790-1027. The Commissioner is hereby authorized to charge any other fees which may be required under 37 C.F.R. §§1.16 and 1.17, or credit any overpayment, to Deposit Account No. 19-0134.

Respectfully submitted,

Date: July 3, 2001

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